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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,692	02/27/2004	Peter C. Collins	H0003347-1050	9327

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Honeywell International, Inc.  
Law Dept. AB2  
P.O. Box 2245  
Morristown, NJ 07962-9806

EXAMINER
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DUONG, THANH P

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/789,692

Applicant(s)

COLLINS ET AL.

Examiner

Tom P. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 1-31 and 43-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-47 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/27/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-31, drawn to a catalytic heat exchanger system, classified in class 165, subclass 166
- II. Claims 32-42, drawn to an environmental control system, classified in class 422, subclass 177.
- III. Claims 43-47, drawn to a method for providing cleansed air to a cabin of a vehicle, classified in class 60, subclass 273.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different mode of operation. Invention I is drawn to a heat catalytic heat exchanger for purifying the pollutant air while Invention II is drawn to an environmental control system for conditioning the air to a cabin of a vehicle.

Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different

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process of using that product. See MPEP § 806.05(h). In the instant case, the process for using the product as claimed can be practiced with another materially different product such as the method of providing the cleansed air can be used in cleaning a waste gas from a boiler other than a cabin of a vehicle.

Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the process for using the product as claimed can be practiced with another materially different product such as the method of providing the cleansed air can be used in cleaning a waste gas from a boiler other than a cabin of a vehicle.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Michael A. Shimokaji on May 11, 2006 a provisional election was made with traverse to prosecute the invention of Group II, claims 32-42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 32-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 32-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (6,576,199) in view of Limberg et al. (4,665,973). Note, the system is being examined as an apparatus. Regarding claim 32, 35, and 37, Liu et al discloses an

environmental control system (Abstract) for providing conditioned air to a cabin of a vehicle (Col. 3, lines 1-10), comprising: a catalytic heat exchanger system (18) adapted for removing at least one pollutant from an air stream, and said catalytic heat exchanger system further adapted for cooling said air stream, and at least one duct (Fig. 1) coupled to said catalytic heat exchanger system for providing said air stream to said catalytic heat exchanger system from a compressed air source. Liu et al discloses a precooler may be located upstream of the catalytic converter (18) (Col. 3, lines 19-21) but is silent with respect to the catalytic precooler disposed within a housing. Limberg et al. '973 teaches it is conventional to provide a catalyst precooler (18) within a housing (Fig. 1) to facilitate the ozone decomposition. Thus, it would have been obvious in view of Limberg et al to one having ordinary skill in the art to modify the apparatus of Liu with a catalyst precooler to facilitate the ozone decomposition. Regarding claim 33, Limberg et al. discloses catalytic precooler comprises a plurality of hot pass passages (48) arranged longitudinally within said first housing, a first catalyst support disposed within said plurality of hot pass passages, and at least one catalyst disposed on or within said first catalyst support (Col. 2, line 66 – Col. 3, line 17). Regarding claim 34, the above applied references essentially disclose the claimed invention except the arrangement of augmentative catalytic device upstream of the catalytic precooler. It would have been an obvious matter of design choice to one having ordinary skill in the art to rearrange the environment control system of the applied references with the catalytic precooler upstream of the augmentative catalytic device since the shifting of the position of the catalyst precooler would not have modified the operation of the device. See *In re*

*Japikse and In re Kuhle*. Regarding claim 36, Liu et al discloses augmentative catalytic device (18) comprises a plurality of channels, and a second catalyst support disposed within said plurality of channels, and said at least one catalyst is disposed on or within said second catalyst support (Figs. 2-3 and Col. 3, lines 23-67). Regarding claims 38-40, the applied references disclose the structural features of the claimed invention; therefore, the device of the applied references is capable of converting the ozone with an efficiency of at least about 85% at most thru routine optimization. Regarding claims 41-42, Liu discloses the compressed air source is from the compressor section of the aircraft's main engine (Col. 3, lines 1-3).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Duong  
October 12, 2006

TD



Tom Duong  
Patent Examiner  
Art Unit 1764